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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/708,641

03/17/2004

Bing-Jei Liao

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01/24/2006

NORTH AMERICA INTELLECTUAL PROPERTY CORPORATION

P.O. BOX 506

MERRIFIELD, VA 22116

EXAMINER

NGUYEN, THANH NHAN P

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 01/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/708,641

Applicant(s)

LIAO, BING-JEI

Examiner

(Nancy) Thanh-Nhan P. Nguyen

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

This communication is responsive to Amendment dated 11/10/2005.

Claims 23-34 are newly added; accordingly, claims 1-34 are pending for the examination.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 15, 20, 21, 24, 27 and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Hu et al U.S. Patent No. 5,517,344.

Regarding claim 1, Hu et al discloses a liquid crystal display panel comprising: a first substrate (13); a second substrate (14) having an active region; a sealant (19) positioned on the second substrate and surrounding the active region for adhering the second substrate to the first substrate; a spacer wall (12) positioned on the second substrate and between the sealant and the active region, the spacer wall having at least one liquid crystal injected opening and at least one spacer block (15) positioned near the liquid crystal injected opening; and a liquid crystal layer (18) positioned between the first substrate, the second substrate, and the sealant, [figs. 6-7].

Claims 15, 20 and 21 are met the discussion regarding claim 1 rejection above.

Regarding claims 24, 27 and 32, Hu et al discloses wherein the spacer wall separates the liquid crystal layer from the sealant.

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 11, 29 and 30 are rejected under 35 U.S.C. 102(e) as being anticipated by Jung et al U.S. Patent Application Publication No. 2005/0030468.

Regarding claims 11 and 30, Jung et al discloses a liquid crystal display panel comprising a first substrate (100); a second substrate (100) having an active region located on a central portion of the second substrate; at least a thin film layer (202) positioned on the second substrate and surrounding the active region; a sealant (90) positioned on the thin film layer for adhering the second substrate to the first substrate; and a liquid crystal (300) layer positioned between the first substrate, the second substrate and the sealant, only a portion of the liquid crystal layer being overlapped by the thin film layer, or wherein a portion of the thin film layer is positioned in the active region, [fig. 5].

Regarding claim 29, Jung et al discloses wherein the thin film layer (202) obstructs light (since '202' is a black matrix layer), [fig. 5], so that the peripheral region and the portion of the liquid crystal layer overlapped by the thin film layer are kept in a dark state.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-3, 6-7, 10, 12, 16, 17, 25, 28 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hu et al in view of Jung et al U.S. Patent Application Publication No. 2005/0030468.

Regarding claims 2-3, Hu et al discloses the second substrate further comprises a peripheral region surrounding the active region, [figs. 6-7]. Hu et al lacks disclosure of and a thin film layer located on the peripheral region where both the sealant and the spacer wall are located, wherein the thin film layer is an anti-reflective layer.

Jung et al discloses a thin film layer, which is anti-reflection film (not shown) formed on the peripheral area of the display panel for the benefit of preventing a reaction between the sealant and the liquid crystal material is formed on the sealant, [par. 0040]. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have an anti-reflective layer located on the peripheral region where both the sealant and the spacer wall area located for the benefit of preventing a reaction between the sealant (or the spacer wall) and the liquid crystal material is formed on the sealant (or the spacer wall).

Claims 6 and 10 are met the discussion regarding claims 1-2 rejection above.

Claim 7 is met the discussion regarding claims 1-3 rejection above.

Claim 12 is met the discussion regarding claims 11 and 3 rejection above.

Claim 16 is met the discussion regarding claims 1-2 rejection above.

Claim 17 is met the discussion regarding claims 1-3 rejection above.

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Claim 25 is met the discussion regarding claims 2 and 29 rejection above.

Claim 28 is met the discussion regarding claims 6 and 29 rejection above.

Claim 33 is met the discussion regarding claims 16 and 29 rejection above.

Claims 4-5, 8-9, 13-14 and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hu et al in view of Jung et al, and further in view of Takako et al U.S. Patent Application Publication No. 2003/058264.

Regarding claims 4-5, Hu et al lacks disclosure of wherein the thin film layer is a first alignment layer, and the liquid crystal display panel further comprising a second alignment layer positioned on the first substrate and opposite to the first alignment layer, wherein the first alignment layer and the second alignment layer are both vertical alignment (VA) layers.

However, it was conventional at the time to have the thin film layer is a first alignment layer, and the liquid crystal display panel further comprising a second alignment layer positioned on the first substrate and opposite to the first alignment layer, wherein the first alignment layer and the second alignment layer are both vertical alignment (VA) layers, and therefore had the benefits associated with being conventional, such as the benefit of being available and the benefit of being suitable for the intended purpose, as evidenced by Takako, [fig. 11 -- elements 33,37; for aligning the liquid crystal molecules vertically (emphasis added)]. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have the thin film layer is a first alignment layer, and the liquid crystal display panel further comprising a second alignment layer positioned on the first substrate and

opposite to the first alignment layer, wherein the first alignment layer and the second alignment layer are both vertical alignment (VA) layers for the benefit of being available and the benefit of being suitable for the intended purpose, [for aligning the liquid crystal molecules vertically (emphasis added)].

Claim 8 is met the discussion regarding claims 1-2 and 4 rejection above.

Claim 9 is met the discussion regarding claims 1-2 and 5 rejection above.

Claim 13 is met the discussion regarding claims 11 and 4 rejection above.

Claim 14 is met the discussion regarding claims 11 and 5 rejection above.

Claim 18 is met the discussion regarding claims 1-2 and 4 rejection above.

Claim 19 is met the discussion regarding claims 1-2 and 5 rejection above.

Claims 22, 23, 26, 31 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hu et al in view of Chung et al U.S. Patent Application Publication No. 2004/0012750.

Regarding claims 22 and 23, Hu et al lacks disclosure of the spacer wall and the spacer block comprising inorganic materials or photoresist materials, such as silicon dioxide or silicon nitride.

However, spacer wall and/or spacer block can be made from silicon nitride as a common material used in the art, and for the benefit of being transparent in the visible part of the light spectrum, and being strong to maintain the uniform cell gap, as evidenced by Chung et al, [par. 0019]. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have the spacer wall

and the spacer block comprising silicon nitride for the benefit of being transparent in the visible part of the light spectrum, and being strong to maintain the uniform cell gap.

Claim 26 is met the discussion regarding claims 6 and 22 rejection above.

Claim 31 is met the discussion regarding claims 15 and 22 rejection above.

Claim 34 is met the discussion regarding claims 21 and 23 rejection above.

Response to Arguments

1. Applicant's arguments filed 11/10/2005 have been fully considered but they are not persuasive regarding claims 1-10 and 15-21. Therefore, the previous rejection for these claims has been maintained.

Applicant's argument: On the Remarks, pages 11 and 12, elements 12 and 19 are applied for sealing; accordingly, the sealing band 12 is not the same as the spacer wall, which can prevent liquid crystal molecules from being contaminated by the sealant, defined in claim 1 of the present application.

Examiner's response: Claim 1 does not claim the as spacer wall for prevent liquid crystal molecules from being contaminated by the sealant. Rather, claim 1 is about a liquid crystal display comprising a sealant and a spacer wall positioned between the sealant and the active region. Further, element 12 would still fit as a spacer wall, which positioned between the sealant 19 and the active region.

Similarly, on the Remarks, page 12, "spacer blocks are positioned near the openings for preventing the sealant from contaminating the liquid crystal molecules (par. 0024)". This feature is described in the specification, but not in the claim, therefore, element 15 could be considered as a spacer block.

2. Applicant's arguments with respect to claims 11-14 and 22-34 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to (Nancy) Thanh-Nhan P. Nguyen whose telephone number is 571-272-1673. The examiner can normally be reached on M-F/9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on 571-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

(Nancy) Thanh-Nhan P Nguyen
Examiner
Art Unit 2871
-- January 21, 2006 --

TN

Andrew Schechter
ANDREW SCHECHTER
PRIMARY EXAMINER